

M-BTMS

PAGE: 1

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/016,869A**

RECEIVED 1644

JAN 2 1998

DATE: 06/15/2000  
TIME: 06:10:00

Wf  
6-26-00  
#16

INPUT SET: S35635.raw

This Raw Listing contains the General  
Information Section and up to the first 5 pages.

SEQUENCE LISTING

ENTERED

1  
2  
3 (1) General Information:  
4  
5 (i) APPLICANT: Beach, David H.  
6 Demetrick, Douglas J.  
7 Serrano, Manuel  
8 Hannon, Gregory J.  
9  
10 (ii) TITLE OF INVENTION: Cell-Cycle Regulatory Proteins, and  
11 Uses Related Thereto  
12  
13 (iii) NUMBER OF SEQUENCES: 34  
14  
15 (iv) CORRESPONDENCE ADDRESS:  
16 (A) ADDRESSEE: Foley, Hoag & Eliot  
17 (B) STREET: One Post Office Square  
18 (C) CITY: Boston  
19 (D) STATE: MA  
20 (E) COUNTRY: USA  
21 (F) ZIP: 02109  
22  
23 (v) COMPUTER READABLE FORM:  
24 (A) MEDIUM TYPE: Floppy disk  
25 (B) COMPUTER: IBM PC compatible  
26 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
27 (D) SOFTWARE: WordPad  
28  
29 (vi) CURRENT APPLICATION DATA:  
30 (A) APPLICATION NUMBER: US 09/016,869  
31 (B) FILING DATE: 30-JAN-1998  
32  
33  
34 (vii) PRIOR APPLICATION DATA:  
35 (A) APPLICATION NUMBER: US 08/893,274  
36 (B) FILING DATE: 15-JUL-1994  
37  
38 (vii) PRIOR APPLICATION DATA:  
39 (A) APPLICATION NUMBER: US 08/306,511  
40 (B) FILING DATE: 14-SEP-1994  
41  
42 (vii) PRIOR APPLICATION DATA:  
43 (A) APPLICATION NUMBER: US 08/248,812  
44 (B) FILING DATE: 25-MAY-1994  
45  
46 (vii) PRIOR APPLICATION DATA:

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/016,869ADATE: 06/15/2000  
TIME: 06:10:02

INPUT SET: S35635.raw

RECEIVED

JUN 26 2000

TEC:

47 (A) APPLICATION NUMBER: US 08/227,371  
48 (B) FILING DATE: 14-APR-1994  
49  
50 (vii) PRIOR APPLICATION DATA:  
51 (A) APPLICATION NUMBER: US 08/154,915  
52 (B) FILING DATE: 18-NOV-1993  
53  
54 (vii) PRIOR APPLICATION DATA:  
55 (A) APPLICATION NUMBER: US 07/991,997  
56 (B) FILING DATE: 17-DEC-1992  
57  
58 (viii) ATTORNEY/AGENT INFORMATION:  
59 (A) NAME: Vincent, Matthew P.  
60 (B) REGISTRATION NUMBER: 36,709  
61 (C) REFERENCE/DOCKET NUMBER: MIV-071.10  
62  
63 (ix) TELECOMMUNICATION INFORMATION:  
64 (A) TELEPHONE: (617) 832-1299  
65 (B) TELEFAX: (617) 832-7000  
66  
67  
68 (2) INFORMATION FOR SEQ ID NO:1:  
69 (i) SEQUENCE CHARACTERISTICS:  
70 (A) LENGTH: 994 base pairs  
71 (B) TYPE: nucleic acid  
72 (C) STRANDEDNESS: both  
73 (D) TOPOLOGY: linear  
74  
75 (ii) MOLECULE TYPE: cDNA  
76 (ix) FEATURE:  
77 (A) NAME/KEY: CDS  
78 (B) LOCATION: 41..508  
79  
80 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:  
81  
82 CGGAGAGGGG GAGAACAGAC AACGGGCGGC GGGGAGCAGC ATG GAT CCG GCG GCG 55  
83 Met Asp Pro Ala Ala  
84 1 5  
85 GGG AGC AGC ATG GAG CCT TCG GCT GAC TGG CTG GCC ACG GCC GCG GCC 103  
86 Gly Ser Ser Met Glu Pro Ser Ala Asp Trp Leu Ala Thr Ala Ala Ala  
87 10 15 20  
88 CGG GGT CGG GTA GAG GAG GTG CGG GCG CTG CTG GAG GCG GTG GCG CTG 151  
89 Arg Gly Arg Val Glu Glu Val Arg Ala Leu Leu Glu Ala Val Ala Leu  
90 25 30 35  
91 CCC AAC GCA CCG AAT AGT TAC GGT CGG AGG CCG ATC CAG GTC ATG ATG 199  
92 Pro Asn Ala Pro Asn Ser Tyr Gly Arg Arg Pro Ile Gln Val Met Met  
93 40 45 50  
94 ATG GGC AGC GCC CGA GTG GCG GAG CTG CTG CTG CTC CAC GGC GCG GAG 247  
95 Met Gly Ser Ala Arg Val Ala Glu Leu Leu Leu Leu His Gly Ala Glu  
96 55 60 65  
97 CCC AAC TGC GCC GAC CCC GCC ACT CTC ACC CGA CCC GTG CAC GAC GCT 295  
98 Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr Arg Pro Val His Asp Ala  
99 70 75 80 85

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/016,869A

DATE: 06/15/2000  
TIME: 06:10:03

## INPUT SET: S35635.raw

```

100  GCC CGG GAG GGC TTC CTG GAC ACG CTG GTG GTG CTG CAC CGG GCC GGG      343
101  Ala Arg Glu Gly Phe Leu Asp Thr Leu Val Val Leu His Arg Ala Gly
102                90                      95                      100
103  GCG CGG CTG GAC GTG CGC GAT GCC TGG GGC CGT CTG CCC GTG GAC CTG      391
104  Ala Arg Leu Asp Val Arg Asp Ala Trp Gly Arg Leu Pro Val Asp Leu
105                105                      110                      115
106  GCT GAG GAG CTG GGC CAT CGC GAT GTC GCA CGG TAC CTG CGC GCG GCT      439
107  Ala Glu Glu Leu Gly His Arg Asp Val Ala Arg Tyr Leu Arg Ala Ala
108                120                      125                      130
109  GCG GGG GGC ACC AGA GGC AGT AAC CAT GCC CGC ATA GAT GCC GCG GAA      487
110  Ala Gly Gly Thr Arg Gly Ser Asn His Ala Arg Ile Asp Ala Ala Glu
111                135                      140                      145
112  GGT CCC TCA GAC ATC CCC GAT TGAAAGAACC AGAGAGGCTC TGAGAAACCT      538
113  Gly Pro Ser Asp Ile Pro Asp
114  150                      155
115  CGGGAAACTT AGATCATCAG TCACCGAAGG TCCTACAGGG CCACAACTGC CCCC GCCACA      598
116  ACCCACCCTG CTTTCGTAAG TTTTCATTTAG AAAATAGAGC TTTTAAAAAT GTCCTGCCTT      658
117  TTAACGTAGA TATAAGCCTT CCCCCTACTAC CGTAAATGTC CATTTATATC ATTTTTTATA      718
118  TATTCTTATA AAAATGTAAA AAAGAAAAAC ACCGCTTCTG CCTTTTCACT GTGTTGGAGT      778
119  TTTCTGGAGT GAGCACTCAC GCCCTAAGCG CACATTTCATG TGGGCATTTC TTGCGAGCCT      838
120  CGCAGCCTCC GGAAGCTGTC GACTTCATGA CAAGCATTTT GTGAACTAGG GAAGCTCAGG      898
121  GGGGTTACTG GCTTCTCTTG AGTCACACTG CTAGCAAATG GCAGAACCAA AGCTCAAATA      958
122  AAAATAAAAT TATTTTCATT CATTCACTCA AAAAAA      994

```

## (2) INFORMATION FOR SEQ ID NO:2:

### (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 156 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

### (ii) MOLECULE TYPE: protein

### (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```

135  Met Asp Pro Ala Ala Gly Ser Ser Met Glu Pro Ser Ala Asp Trp Leu
136    1          5          10          15
137  Ala Thr Ala Ala Ala Arg Gly Arg Val Glu Glu Val Arg Ala Leu Leu
138          20          25          30
139  Glu Ala Val Ala Leu Pro Asn Ala Pro Asn Ser Tyr Gly Arg Arg Pro
140          35          40          45
141  Ile Gln Val Met Met Met Gly Ser Ala Arg Val Ala Glu Leu Leu Leu
142          50          55          60
143  Leu His Gly Ala Glu Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr Arg
144          65          70          75          80
145  Pro Val His Asp Ala Ala Arg Glu Gly Phe Leu Asp Thr Leu Val Val
146          85          90          95
147  Leu His Arg Ala Gly Ala Arg Leu Asp Val Arg Asp Ala Trp Gly Arg
148          100          105          110
149  Leu Pro Val Asp Leu Ala Glu Glu Leu Gly His Arg Asp Val Ala Arg
150          115          120          125
151  Tyr Leu Arg Ala Ala Ala Gly Gly Thr Arg Gly Ser Asn His Ala Arg
152          130          135          140

```

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/016,869A

DATE: 06/15/2000  
TIME: 06:10:04

INPUT SET: S35635.raw

```

153 Ile Asp Ala Ala Glu Gly Pro Ser Asp Ile Pro Asp
154 145                      150                      155
155
156 (2) INFORMATION FOR SEQ ID NO:3:
157
158 (i) SEQUENCE CHARACTERISTICS:
159 (A) LENGTH: 837 base pairs
160 (B) TYPE: nucleic acid
161 (C) STRANDEDNESS: single
162 (D) TOPOLOGY: linear
163 (ii) MOLECULE TYPE: cDNA
164
165 (ix) FEATURE:
166 (A) NAME/KEY: CDS
167 (B) LOCATION: 328..738
168
169 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
170
171 GAGGACTCCG CGACGGTCCG CACCCTGCGG CCAGAGCGGC TTTGAGCTCG GCTGCTTCCG 60
172 CGCTAGGCGC TTTTCCCAG AAGCAATCCA GGCGCGCCCG CTGGTTCTTG AGCGCCAGGA 120
173 AAAGCCCGGA GCTAACGACC GGCCGCTCGG CACTGCACGG GGCCCAAGC CGCAGAAGAA 180
174 GGACGACGGG AGGTAATGA AGCTGAGCCC AGGTCTCCTA GGAAGGAGAG AGTGCGCCGG 240
175 AGCAGCGTGG GAAAGAAGGG AAGAGTGTCT TTAAGTTTAC GGCCAACGGT GGATTATCCG 300
176 GGCCGCTGCG CGTCTGGGGG CTGCGGA ATG CGC GAG GAG AAC AAG GGC ATG 351
177 Met Arg Glu Glu Asn Lys Gly Met
178 1 5
179 CCC AGT GGG GGC GGC AGC GAT GAG GGT CTG GCC ACG CCG GCG CGG GGA 399
180 Pro Ser Gly Gly Gly Ser Asp Glu Gly Leu Ala Thr Pro Ala Arg Gly
181 10 15 20
182 CTA GTG GAG AAG GTG CGA CAC TCC TGG GAA GCC GGC GCG GAT CCC AAC 447
183 Leu Val Glu Lys Val Arg His Ser Trp Glu Ala Gly Ala Asp Pro Asn
184 25 30 35 40
185 GGA GTC AAC CGT TTC GGG AGG CGC GCG ATC CAG GTC ATG ATG ATG GGC 495
186 Gly Val Asn Arg Phe Gly Arg Arg Ala Ile Gln Val Met Met Met Gly
187 45 50 55
188 AGC GCC CGC GTG GCG GAG CTG CTG CTG CTC CAC GGC GCG GAG CCC AAC 543
189 Ser Ala Arg Val Ala Glu Leu Leu Leu His Gly Ala Glu Pro Asn
190 60 65 70
191 TGC GCA GAC CCT GCC ACT CTC ACC CGA CCG GTG CAT GAT GCT GCC CGG 591
192 Cys Ala Asp Pro Ala Thr Leu Thr Arg Pro Val His Asp Ala Ala Arg
193 75 80 85
194 GAG GGC TTC CTG GAC ACG CTG GTG GTG CTG CAC CGG GCC GGG GCG CGG 639
195 Glu Gly Phe Leu Asp Thr Leu Val Val Leu His Arg Ala Gly Ala Arg
196 90 95 100
197 CTG GAC GTG CGC GAT GCC TGG GGT CGT CTG CCC GTG GAC TTG GCC GAG 687
198 Leu Asp Val Arg Asp Ala Trp Gly Arg Leu Pro Val Asp Leu Ala Glu
199 105 110 115 120
200 GAG CGG GGC CAC CGC GAC GTT GCA GGG TAC CTG CGC ACA GCC ACG GGG 735
201 Glu Arg Gly His Arg Asp Val Ala Gly Tyr Leu Arg Thr Ala Thr Gly
202 125 130 135
203 GAC TGACGCCAGG TTCCCCAGCC GCCACAACG ACTTTATTTT CTTACCCAAT 788
204 Asp
205

```

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/016,869ADATE: 06/15/2000  
TIME: 06:10:05

INPUT SET: S35635.raw

206 TTCCCACCCC CACCCACCTA ATTCGATGAA GGCTGCCAAC GGGGAGCGG 837  
207  
208 (2) INFORMATION FOR SEQ ID NO:4:  
209  
210 (i) SEQUENCE CHARACTERISTICS:  
211 (A) LENGTH: 137 amino acids  
212 (B) TYPE: amino acid  
213 (D) TOPOLOGY: linear  
214  
215 (ii) MOLECULE TYPE: protein  
216  
217 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:  
218  
219 Met Arg Glu Glu Asn Lys Gly Met Pro Ser Gly Gly Gly Ser Asp Glu  
220 1 5 10 15  
221 Gly Leu Ala Thr Pro Ala Arg Gly Leu Val Glu Lys Val Arg His Ser  
222 20 25 30  
223 Trp Glu Ala Gly Ala Asp Pro Asn Gly Val Asn Arg Phe Gly Arg Arg  
224 35 40 45  
225 Ala Ile Gln Val Met Met Met Gly Ser Ala Arg Val Ala Glu Leu Leu  
226 50 55 60  
227 Leu Leu His Gly Ala Glu Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr  
228 65 70 75 80  
229 Arg Pro Val His Asp Ala Ala Arg Glu Gly Phe Leu Asp Thr Leu Val  
230 85 90 95  
231 Val Leu His Arg Ala Gly Ala Arg Leu Asp Val Arg Asp Ala Trp Gly  
232 100 105 110  
233 Arg Leu Pro Val Asp Leu Ala Glu Arg Gly His Arg Asp Val Ala  
234 115 120 125  
235 Gly Tyr Leu Arg Thr Ala Thr Gly Asp  
236 130 135  
237  
238 (2) INFORMATION FOR SEQ ID NO:5:  
239  
240 (i) SEQUENCE CHARACTERISTICS:  
241 (A) LENGTH: 853 base pairs  
242 (B) TYPE: nucleic acid  
243 (C) STRANDEDNESS: both  
244 (D) TOPOLOGY: linear  
245  
246 (ii) MOLECULE TYPE: cDNA  
247  
248 (ix) FEATURE:  
249 (A) NAME/KEY: CDS  
250 (B) LOCATION: 213..587  
251  
252 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:  
253  
254 GGAGTACAGC AGCGGGAGCA TGGGTCGCAG GTTCTTGGTC ACTGTAAGGA TTCAGCGCGC 60  
255  
256 GGGCCGCCCA CTCCAAGAGA GGGTTTTCTT GGTGAAGTTC GTGCGATCCC GGAGACCCAG 120  
257  
258 GACAGCGAGC TCGCTCTGG CTTTCGTGAA CATGTTGTTG AGGCTAGAGA GGATCTTGAG 180

PAGE: 1

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/016,869A**

DATE: 06/15/2000  
TIME: 06:10:06

***INPUT SET: S35635.raw***

Line

Error

Original Text